

CLAIMS

I claim:

- 5 1. A method for manufacture of structural members from existing wood and thermoplastic products and materials comprising:
 selecting a wood product that has been chemically treated for durability;
 processing said wood product in a grinder to form chemically
10 treated wood particles;
 selecting a thermoplastic and processing said thermoplastic in a chipper to form thermoplastic particles;
 mixing said chemically treated wood particles and said thermoplastic particles in a mixer to form a mixture;
15 processing said mixture in a high intensity processor to further mix and preheat said mixture;
 processing said mixture in an extruder to compress and heat said mixture to form a molten mixture;
 placing said molten mixture into a mold for forming a structural
20 member; and
 removing from said mold after cooling has occurred said structural member.
2. The method as in claim 1 wherein said wood product chemical
25 treatment is creosote oil.
3. The method as in claim 1 wherein said wood product is selected from the group of a wood railroad tie, a wood utility pole and a wood sign post.
- 30 4. The method as in claim 1 wherein said thermoplastic is selected from the group of a polyethylene and a polypropylene.

5. The method as in claim 1 wherein said chemically treated wood particles are processed to a size to be a diameter of approximately one to forty millimeters.

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6. The method as in claim 1 wherein said thermoplastic particles are processed to a size to be a diameter of approximately one to twenty millimeters.

7. The method as in claim 1 wherein processing said thermoplastic is performed in a densifier.

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8. The method as in claim 1 wherein said wood product is a waste material.

9. The method as in claim 1 wherein said thermoplastic is a waste material.

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10. The method as in claim 1 wherein said mixture is comprised of approximately ten to seventy percent by weight of said thermoplastic and approximately thirty to ninety percent by weight of said wood product.

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11. The method as in claim 1 wherein processing is said high intensity processor further reduces the size of said thermoplastic particles and said chemically treated wood particles.

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12. The method as in claim 1 wherein said extruder heats said mixture to approximately a temperature of 150 degrees Centigrade to 230 degrees Centigrade.

13. The method as in claim 1 further comprising the adding of a fire retardant substance during said mixing.

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14. The method as in claim 1 further comprising the adding of a baking soda of approximately one to three percent by weight of said mixture during said mixing.

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15. The method as in claim 1 further comprising the adding of an ultraviolet protection material of approximately one to four percent by weight of said mixture during said mixing.

10 16. The method as in claim 1 further comprising the disposing of a reinforcement element in said mold prior to placing said molten mixture in said mold.

15 17. The method as in claim 16 wherein said reinforcement element is selected from the group of a tire tread strip, a rebar, a wire and a railroad rail.

18. A structural member produced according to the method of claim 1.

20 19. A method for manufacture of structural members from existing wood and thermoplastic products and materials, comprising the steps of:

selecting a wood product that has been chemically treated for durability;

processing said wood product in a grinder to form chemically treated wood particles of a diameter of approximately one to forty millimeters;

25 selecting a thermoplastic and processing said thermoplastic in a chipper to form thermoplastic particles of a diameter of approximately one to twenty millimeters;

mixing said chemically treated wood particles and said thermoplastic particles in a mixer to form a mixture comprised of approximately
30 ten to seventy percent by weight of said thermoplastic and approximately thirty to ninety percent by weight of said wood product;

mixing a baking soda comprised of approximately one to three percent by weight of said mixture and an ultraviolet protection material comprised of approximately one to four percent by weight of said mixture in said mixture;

5 processing said mixture in a high intensity processor to further mix and preheat said mixture;

 processing said mixture in an extruder to compress and heat said mixture to approximately a temperature of 150 degrees Centigrade to 230 degrees Centigrade to form a molten mixture;

10 disposing a reinforcement element in a mold;
 placing said molten mixture into said mold for forming a structural member; and

 removing from said mold after cooling has occurred said structural member.

15 20. A structural member produced according to the method of claim 19.

 21. A structural member comprising:
 a mixture of a wood product chemically treated for durability and a thermoplastic;

20 wherein said mixture is comprised of approximately ten to seventy percent by weight of said thermoplastic and approximately thirty to ninety percent by weight of said wood product; and

 wherein said mixture has been compressed and heated to allow said thermoplastic to penetrate in said wood product having molds therein.

25 22. The structural member as in claim 21 wherein said wood products are chemically treated with creosote oil.

30 23. The structural member as in claim 21 wherein a reinforcement element is disposed in said structural member.

24. The structural member as in claim 21 wherein said mixture is further comprised of a baking soda of approximately one to three percent by weight of said mixture.

- 5 25. The structural member as in claim 21 wherein said mixture is further comprised of an ultraviolet protection material of approximately one to four percent by weight of said mixture.